

Application No. 09/408,873

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 17 (Canceled).

18. (Currently Amended) An image acquisition system, comprising:

a plurality of cameras simultaneously records a plurality of views of an area having one or more objects to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and wherein the offset lens of the at least one camera may be shifted to one of a plurality of offsets; and

an image processing system coupled to the plurality of cameras and operable to combine the plurality of camera images simultaneously recorded to produce a composite image having a higher resolution than the resolution of one or more of the simultaneously recorded views of the area by patching the views together at regions of overlap.

Claim 19 (Canceled).

20. (Original) The image acquisition system of claim 18, wherein the image processing system is operable to produce the composite image by mosaicing the camera images.

Claims 21-24 (Canceled).

25. (Currently Amended) A method of scanning with a camera, comprising the steps of:

(a) recording a first view of an area having one or more objects while a lens is positioned at [[an]] a fixed offset position within a plane substantially orthogonal to an optical axis of the lens while the camera is at a first rotated position;

Application No. 09/408,873

(b) rotating the camera about an axis of rotation parallel to an optical axis of the lens from the first rotated position to a second rotated position;

(c) recording a second view of the area while the lens is positioned at the fixed offset position within the plane after the camera is rotated to ~~[[a]]~~ the second rotated position; and

~~[[c]]~~ (d) combining all recorded views to produce a composite image having a higher resolution than the resolution of one or more of the recorded views by patching the views together at regions of overlap.

26. **(Currently Amended)** The method of claim 25, further comprising between step ~~[[b]]~~ (c) and step ~~[[c]]~~ (d), the ~~[[step]]~~ steps of:

(f) rotating the camera about the axis of rotation from the second rotated position to a third rotated position;

~~[[d]]~~ (g) recording a next view of the area while the lens is positioned at the offset position within the plane ~~[[while]]~~ after the camera is rotated to a third rotated position.

27. **(Currently Amended)** The method of claim 26, further comprising the step of:

~~[[e]]~~ (h) repeating ~~[[step (d)]]~~ steps (f) and (g) until all views of the area have been recorded.

28. **(Currently Amended)** The method of claim 25, wherein step (b) further comprises rotating the camera about the axis of rotation 180 degrees from the first rotated position to the second rotated position, and wherein step (c) further comprises the step of recording the second view of the area while the lens is positioned at the offset position within the plane ~~[[while]]~~ after the camera is rotated 180 degrees to the second rotated position.

29. **(Currently Amended)** A method of scanning with a camera system having a plurality of cameras, comprising the steps of:

(a) simultaneously recording a plurality of views of an area having one or

Application No. 09/408,873

more objects with a plurality of cameras to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and wherein the offset lens of the at least one camera may be shifted to one of a plurality of offsets; and

(b) combining the plurality of simultaneously recorded camera images to produce a composite image having a higher resolution than the resolution of one or more of the simultaneously recorded views of the area by patching the views together at regions of overlap.

30. (Previously Presented) The method of claim 29, wherein step (b) includes the step of mosaicing all recorded views of the area.

31. (Previously Presented) The image acquisition system of claim 18, wherein the image processing system is operable to combine the plurality of camera images to produce a composite image of the plurality views by patching the plurality of camera images together at regions of overlap.

32. (Previously Presented) The image acquisition system of claim 18, wherein the plurality of cameras are arranged together in a housing.

33. (Previously Presented) The image acquisition system of claim 32, wherein the housing is positioned over a desk.

34. **(Currently Amended)** ~~The image acquisition system of claim 18,~~ An image acquisition system, comprising:

a plurality of cameras simultaneously records a plurality of views of an area having one or more objects to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and wherein the

Application No. 09/408,873

offset lens of the at least one camera may be shifted to one of a plurality of offsets; and
an image processing system coupled to the plurality of cameras and operable to
combine the plurality of camera images simultaneously recorded to produce a
composite image having a higher resolution than the resolution of one or more of the
simultaneously recorded views of the area;

wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

35. (Previously Presented) The image acquisition system of claim 34, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.

36. (Canceled).

37. (Canceled).

38. (Previously Presented) The method of claim 29, wherein said combining combines the plurality of recorded views by patching the plurality of camera images together at regions of overlap to produce a composite image having a higher resolution than the resolution of one or more of the recorded views.

39. (Previously Presented) The method of claim 29, further comprising arranging the plurality of cameras in a housing.

40. (Previously Presented) The method of claim 39, wherein the housing is positioned over a desk.

41. (Currently Amended) ~~The method of claim 29,~~ A method of scanning with a camera system having a plurality of cameras, comprising the steps of:

(a) simultaneously recording a plurality of views of an area having one or more objects with a plurality of cameras to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and

Application No. 09/408,873

wherein the offset lens of the at least one camera may be shifted to one of a plurality of offsets; and

(b) combining the plurality of simultaneously recorded camera images to produce a composite image having a higher resolution than the resolution of one or more of the simultaneously recorded views of the area;

wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

42. (Previously Presented) The method of claim 41, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.

43. (New) The image acquisition system of claim 18, wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

44. (New) The image acquisition system of claim 43, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.

45. (New) The method of claim 29, wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

46. (New) The method of claim 45, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.